

REPORT: FE-16-97

RAILROAD: Central Michigan Railway Company (CMGN)

LOCATION: Bay City, Michigan

DATE, TIME: June 6, 1997, 9:35 p.m., EST

PROBABLE CAUSE:

Failure of Engineer to stop movement of train when communication was lost.

POSSIBLE CONTRIBUTING FACTOR:

Failure of the Conductor's radio due to low battery voltage.

EMPLOYEE: **Craft.....** **Transportation**

Activity..... Switching

Occupation..... Conductor

Age..... 50 years

Length of Service..... Seven years

Last Rules Training..... Dec. 18, 1996

Last Safety Training..... Dec. 18, 1996

Last Physical Exam..... Oct. 5, 1993

Circumstances Prior to the Accident

On June 6, 1997 at 9 p.m., an Engineer and Conductor reported for duty for Yard Job 703 at Winona Yard, Bay City, Michigan, after receiving the statutory off-duty period. Locomotive 8802 was assigned to Yard Job 703 that day. After the Engineer had completed the locomotive inspection, the Crew moved the locomotive off of the engine dock track and proceeded to Track No. 3 to pick up a cut of cars. The Crew then shoved and released (kicked) an unknown number of cars to Track No. 2 East. The Crew then pulled the remaining 14 cars (12-2) southward to clear traffic on the Euclid Avenue Grade Crossing. After traffic had cleared the crossing, the Conductor advised the Engineer by radio that traffic was clear and instructed him to shove ahead (north) 20 to 25 car lengths to make a coupling on Track No. 1.

The Engineer was seated at the locomotive controls on the east side of the locomotive cab facing north. The Conductor was positioned on the west side of the 14th car (to become the lead car during the shoving move).

The Conductor told the Engineer by radio that the crossing gate was down and traffic was clear. As the locomotive was nearing the Euclid Avenue Grade Crossing, the Engineer stated he was slowing down because he had no other instructions from the Conductor by radio. As the locomotives cleared the crossing, the Engineer applied the independent brake, and the train went into emergency.

The weather was clear, and the temperature was 76° F.

The Accident

After the emergency brake application occurred, the Engineer attempted to contact the Conductor on the radio several times, with no response. He then called the Dispatcher for a radio check. The Dispatcher stated the radio was working properly. The Engineer dismounted the locomotive and found the Conductor lying on the ground between Track No. 1 and the main track where the impact had occurred. He removed the Conductor's radio from the radio case and called the Dispatcher, who did not respond. He then went to the office and called the Dispatcher by telephone to request emergency assistance.

The Michigan State Police arrived at the scene at 9:45 p.m., a Bay Health Ambulance arrived at 9:55 p.m., and the Bangor Township Fire Department arrived at 9:55 p.m.

Please see the attached diagram of Winona Yard and the Euclid Avenue Grade Crossing to better visualize the accident scene and chain of events that led up to the fatality.

Post-Accident Investigation

The investigation revealed a severe impact between AEX 112201 (covered hopper), the southernmost car of 15 standing cars, and UP 273042 (bulk head flatcar), the northernmost car of the 14 cars being shoved onto Track No. 1. Evidence indicates the Conductor was riding on the west side of the bulk head flatcar in a position to be crushed by the resulting impact. The force of the collision caused considerable damage to both cars. It was also noted that the angle cock on the bulk head flatcar was open after the accident, suggesting an explanation for the emergency brake application. Measurements taken at the scene revealed the impact had occurred approximately 16 car lengths from the point where the northbound movement had begun.

The Engineer stated that the speed just prior to the accident was estimated at 6 to 8 mph. The event recorder removed from the locomotive was found to be inoperable and contained no data to substantiate the Engineer's statement. The maximum authorized speed at the location of the fatality was 10 mph.

Tests were performed on the Conductor's battery charger and radio by an independent Motorola dealer. The tests revealed that the charging current measured 41 milliampere (MA). The manufacturer's specification for charging was 45 MA plus or minus 10 MA. Therefore, the charger was operating properly.

The radio was tested on June 9 and 10, 1997. The radio had been turned off, but had not been charged since the day of the accident. The radio was operated in standby mode 15 minutes prior to testing. The test revealed that the radio battery did not have sufficient voltage to operate in the transmit mode. Transmit power started at two watts and dropped to zero after 15 seconds of transmit time. A second test was performed after allowing the battery to recover. This time, transmit power measured seven tenths of a watt, and dropped to zero after two seconds. Transmitter modulation and frequency stability were present even at a low transmit power level. The receiving power was found to be sufficient. A broken antenna center pin was also discovered, but was not believed to be a factor.

A test of the battery charging capacity performed on June 10 revealed that the radio rated at 100 percent power after 14 hours of charging. The radio was then disassembled to check for intermittent operational problems in both the transmit and receive modes. No intermittent problems were discovered.

Based on the results of the radio tests, the investigators concluded that the Conductor's radio battery was not fully charged prior to being used on the day of the accident. The Conductor was allowed to keep the charger at his residence and was responsible for charging the unit before use each day. They could not determine why the battery had not been charged as required.

Toxicological tests were performed on the Engineer and the deceased Conductor, under FRA authority. Test results were negative.